Global Ocean Monitoring and Observing
NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION

Gliders

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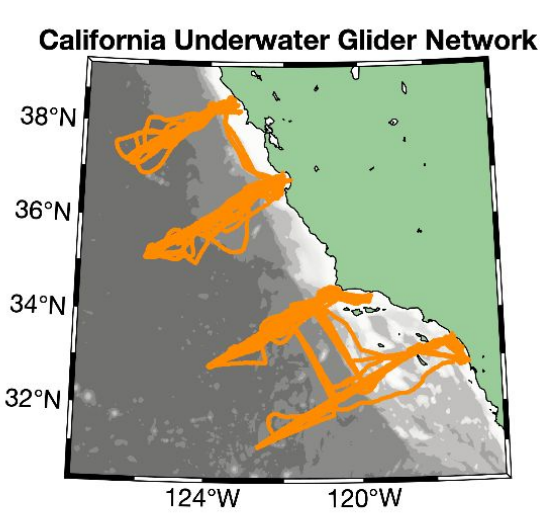
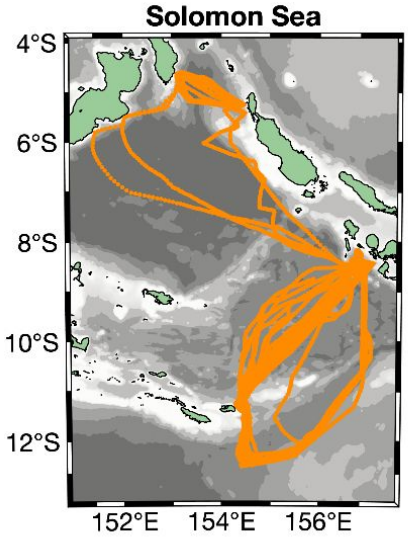
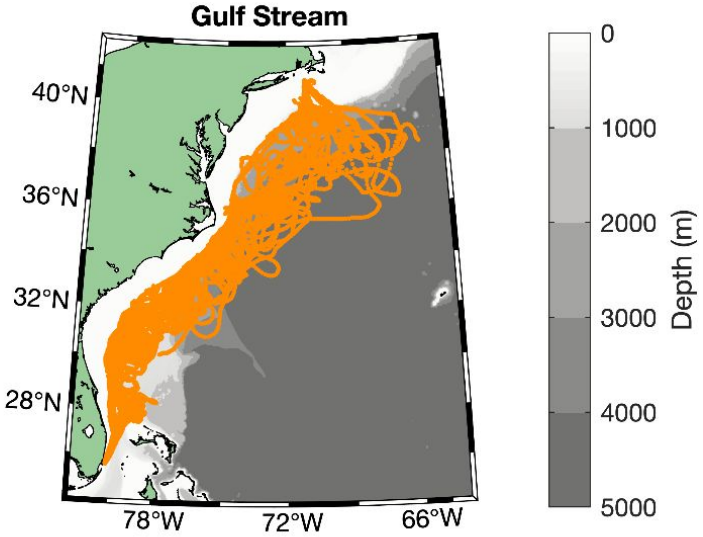
Project Overview

- Three main projects:
  - California Current
  - Gulf Stream
  - Solomon Sea





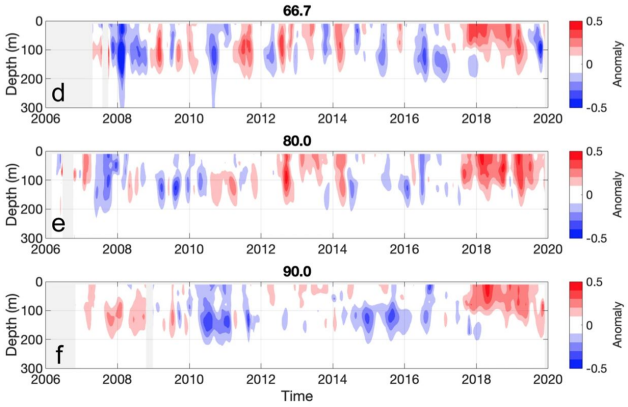


GOMO link

- GOMO has supported this work:
  - Since 2004, with the newest addition of the Gulf Stream work during the hurricane season since 2015
    - Support for field work as well as data sharing (near-real time and post-processed)
  - Encouraging growth in the glider community
  - Providing baseline support (sustained observing) to leverage research (improvements in sensors, development of SPRAY 2)

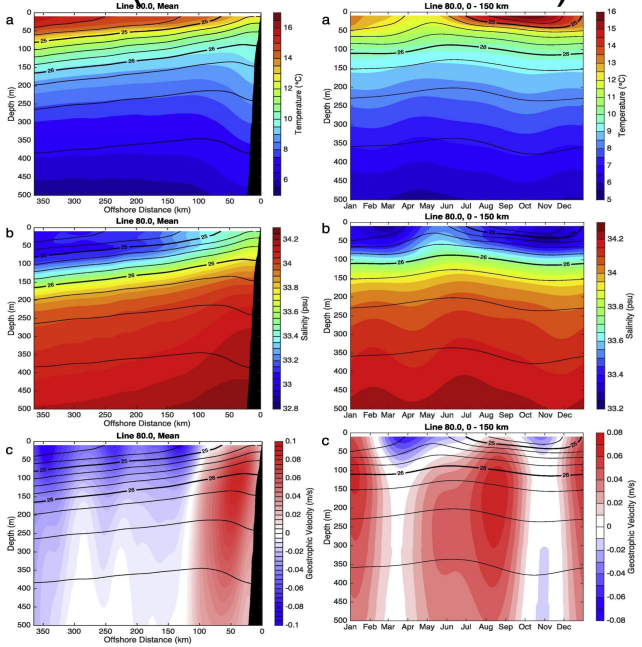
Achievements and Impacts: California Current

Characterizing extreme events off California (Ren and Rudnick 2021)



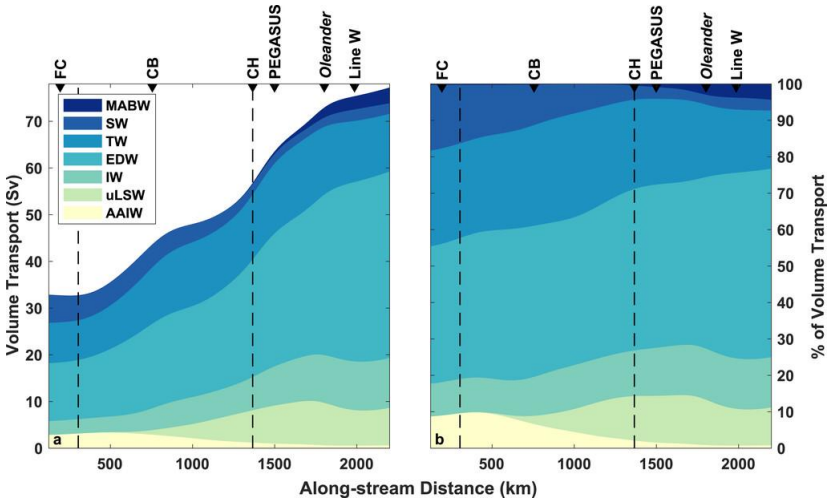
Multi-year Salinity Anomaly (Ren & Rudnick 2021)

CUGN Climatology (Rudnick et al. 2017)

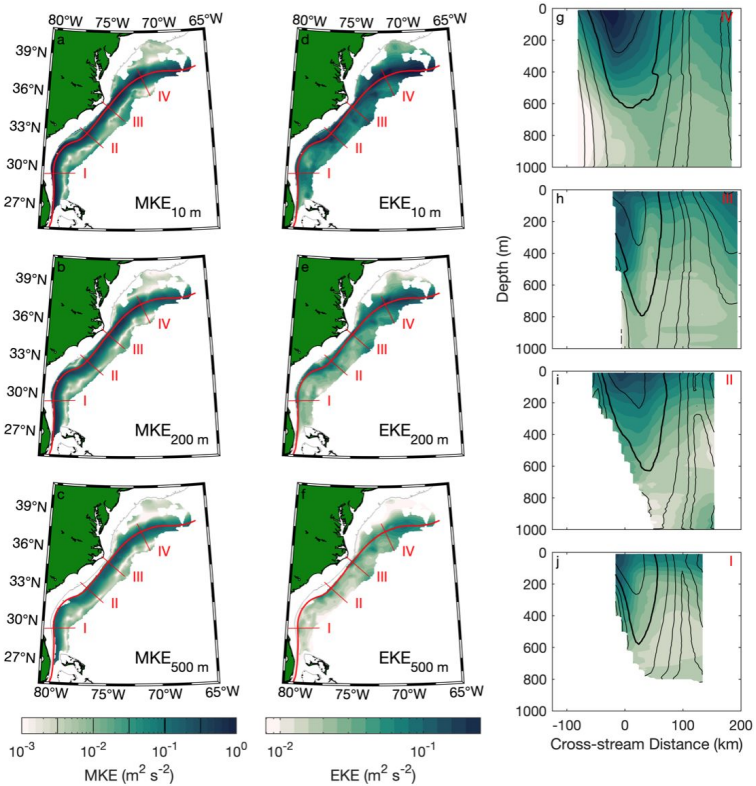


Achievements and Impacts: Gulf Stream

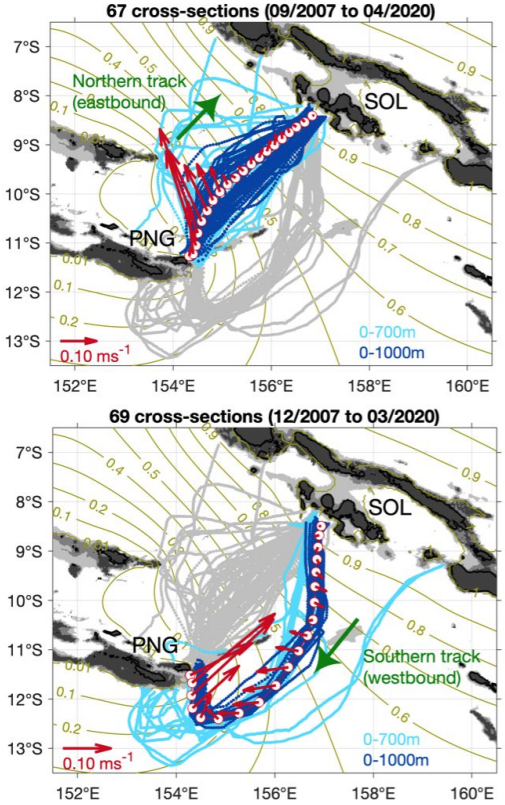
Gulf Stream Transport by Water Class (Heiderich & Todd 2020)



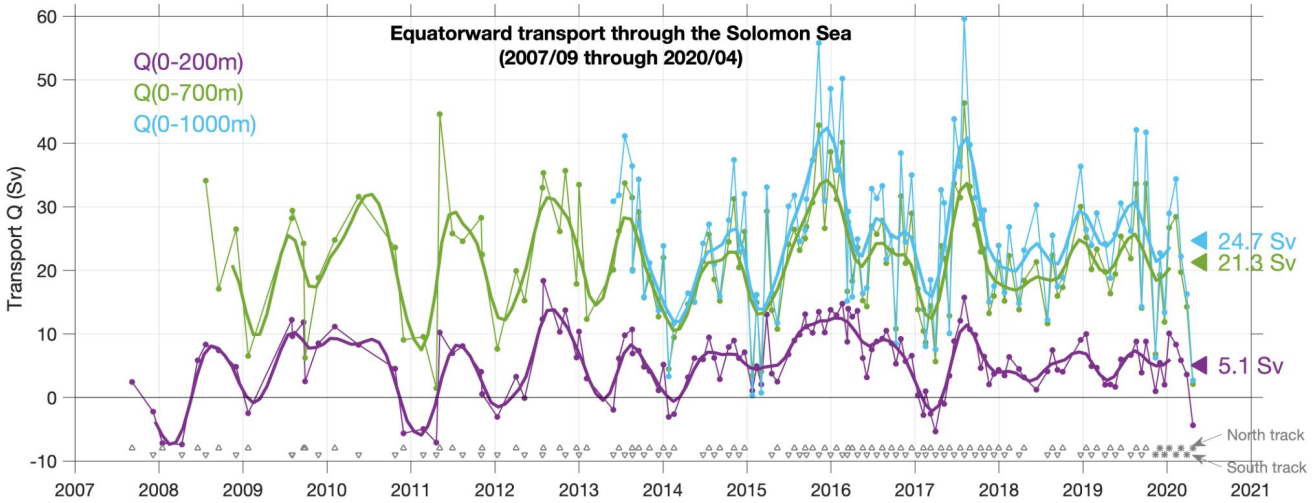
3D Gulf Stream Kinetic Energy (Todd 2021)



Achievements and Impacts: Solomon Sea



Time-series of equatorward transport through Solomon Sea (Kessler et al. 2019)



Impact of the glider program (last 5 years)

- Model for sustained glider-based observing in eastern and western boundary currents
- 3 Ph.D. graduates and 1 M.S. graduate
- >25 peer reviewed publications using these observations

Future plans and opportunities

- Next steps and future plans (next 5 years)
  - Work on a transition plan for the California Current gliders
  - Develop a more sustainable plan for the Gulf Stream activities
  - Invest in product development for BGC variables from coast to open ocean with integrating glider and Argo data
- How will these future plans advance the ocean observing enterprising?
  - The Gulf Stream is a major contributor to sea level rise on the east coast and an indicator for intensity of hurricanes.
  - A BGC product in the California Current would help with fisheries management